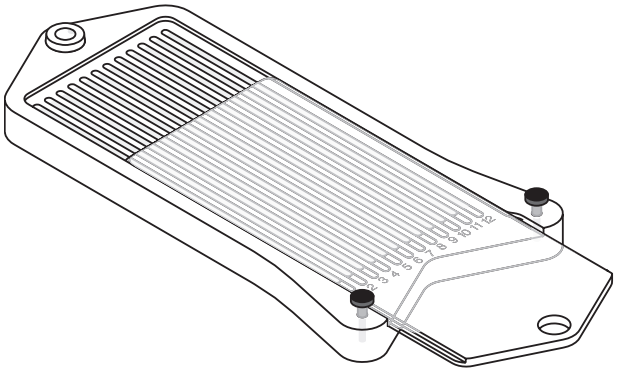
GE Healthcare

Immobiline DryStrip Reswelling Tray

7–18 cm

User Manual



Important user information

All users must read this entire manual to fully understand the safe use of Immobiline DryStrip Reswelling Tray.

Contents

1 Function and description
1.1 Important notes 7

2 Immobiline DryStrip gel rehydration
2.1 Rehydration solution 9
2.2 Sample capacity 9

3 Rehydration protocol
3.1 Day 1 11
3.2 Day 2 12

4 Electrophoresis

5 Troubleshooting

6 Care and maintenance

7 Customer service information

8 Ordering information

Contents

1 Function and description

The Immobiline™ DryStrip Reswelling Tray is an accessory to the Multiphor™ II 2-D electrophoresis system. It provides a convenient means of rehydrating up to twelve precast Immobiline DryStrip gels (IPG strips) at lengths up to 18 cm.

Separate slots allow the rehydration of individual IPG strips in a minimal volume of solution.[1] By including the sample to be separated in the rehydration solution, the sample does not need to be loaded subsequently through the conventional sample cup. Loading the sample by rehydration eliminates precipitation at the application site and increases the amount of sample that can be loaded to ≥5 mg for 50 µl IPG strips.

The tray includes a lid to protect the IPG strips from dust and contamination during the rehydration period, which may range from 10 hours to overnight. Leveling feet and an attached spirit level aid in the even application of solution.

1.1 Important notes

- Always wear gloves when handling IPG strips.
- Do not overfill the slots; the proper rehydration volume is tabulated in the following section.
- Clean the reswelling tray thoroughly after each use (see the Care and maintenance section).
- Refer to the technical handbook *2-D Electrophoresis Using Immobilized pH Gradients* for a complete guide to handling IPG strips.

[1] Sanchez, J.C., Rouge V., Pisteur, M., Ravier, F., Tonella, L., Moosmayer, M., Wilking, M.R., and Hochstrasser, D.F. 1997, "Improved and simplified in-gel sample application using reswelling of dry immobilized pH gradients." Electrophoresis **18**, 324-327.

1 Function and description

1.1 Important notes

2 Immobiline DryStrip gel rehydration

Ideally, the total volume of rehydration solution (with or without sample) should equal the amount of fluid removed from the IPG strips during the drying process. This ensures that the entire sample, if included in the solution, enters the IPG strip. Using the optimal volume minimizes electroendosmotic flow and water exudation during the focusing step.

IPG strip length (cm)	recommended volume per slot (µl)
7	125
11	200
13	250
18	340

2.1 Rehydration solution

Directions for making rehydration solution can be found in the Appendix of the technical handbook, *2-D Electrophoresis Using Immobilized pH Gradients*.

Note: You can store the rehydration solution in 2.5 ml aliquots at -20 °C.

2.2 Sample capacity

The protein capacity of IPG strips ranges from several micrograms to milligrams. Factors that determine the maximum amount of sample for a strip include protein solubility and the combination of pH gradient width and strip length. In general, the longer the IPG strip and the narrower the pH gradient, the higher the protein capacity will be.

3 Rehydration protocol

3.1 Day 1

The following IPG strip rehydration procedure applies, either if the sample is included in the rehydration solution or if it is applied by the cup method just prior to IEF rehydration.

1 Slide the protective lid completely off of the reswelling tray.

Note: Deliver the solution slowly in one central point to minimize the introduction of air bubbles. Remove any larger bubbles that may be trapped in the solution.

2 Level the tray by turning the leveling feet screws until the bubble in the spirit level is centered.

3 Pipette the appropriate volume of rehydration solution into each slot that will hold a strip.

4 Gently lay each strip on the solution with the gel facing down and the pointed end of the strip near the number labels on the tray (Fig 1). Slide the strip back and forth to ensure that the entire length of the strip is wetted.

Place only one strip in each reswelling chamber.
The tray can hold up to 12 strips.

5 Overlay each strip with 2–3 ml of DryStrip Cover Fluid to prevent evaporation and urea crystallization.

6 Slide the lid into place and allow the gels to hydrate a minimum of 10 hours (preferably overnight) at room temperature.

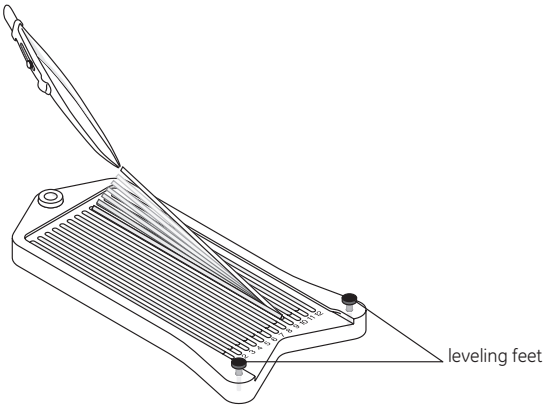


Fig 1-1. Placing an IPG strip in a prepared slot on the reswelling tray.

3.2 Day 2

1 To remove a strip, slide the forceps tip the along the slope and into the slight depression under the pointed end of the strip and lift. While still holding the strip, rinse it briefly in a stream of deionized water delivered from a squeeze bottle.

Note: Rinsing removes excess rehydration solution, which reduces the amount of urea crystallization on the strip surface during IEF.

2 Momentarily rest the edge of the strip only on damp filter paper (EPH Electrode Wick, 104 x 253 mm, code no. 80-1129-52) to absorb excess moisture. Avoid contact between the gel portion of the strip and the filter paper.

3 If the rehydration solution included sample, the strip is ready for immediate placement on the Multiphor II electrophoresis unit. If the sample will be applied with sample cups, refer to the appropriate section in the Immobiline DryStrip Kit Instructions (code no. 18-4038-63) or the technical handbook, *2-D Electrophoresis Using Immobilized pH Gradients*.

4 Electrophoresis

Follow your selected protocol or the guidelines for first dimension focusing and second dimension gel electrophoresis in the technical handbook, *2-D Electrophoresis Using Immobilized pH Gradients* (code no. 80-6429-60).

5 Troubleshooting

symptom	possible cause	remedy
Uneven swelling of strips	IPG strips were stored at or above room temperature for too long before rehydration.	Do not allow dry IPG strips to sit at room temperature for longer than 10 min. Strips absorb moisture from the air. Store IPG strips well-sealed, at temperatures below -20 °C.
	Incorrect volume of rehydration solution used.	Make sure the correct amount of solution is added to the slot in the reswelling tray.
	The rehydration time is too short.	Rehydrate the IPG strips for at least 10 h.

Note: It is normal for the basic end of the IPG strip to swell faster than the acidic end.

5 Troubleshooting

6 Care and maintenance

- Never autoclave or heat any part above 45 °C.
- After each use, rinse the reswelling tray thoroughly and treat with a detergent solution to remove residual protein. Rinse thoroughly with water and then double distilled water and allow to dry.
- Never clean the reswelling tray with alcohols, organic solvents, abrasives, strong cleaning solutions, or strong acids or bases.

6 Care and maintenance

7 Customer service information

GE Healtcare offers complete technical support for all our products. If you have any questions about how to use this product, or would like to arrange to repair it, please call or fax your local GE Healtcare representative.

Note: Request a copy of the GE Healthcare "Health and Safety Declaration" form before returning the item. No items can be accepted for servicing or return unless this form is properly completed.

7 Customer service information

8 Ordering information

	quantity	code no.
Immobiline DryStrip Reswelling Tray, 7–8 cm	1	80-6371-84
2-D Electrophoresis Using Immobilized pH Gradients, Principles and Methods	1	80-6429-60

8 Ordering information

For contact information for your local office, please visit
www.gelifesciences.com/contact

www.gelifesciences.com

GE Healthcare Bio-Sciences AB
Björkgatan 30
751 84 Uppsala
Sweden

GE, imagination at work and GE monogram are trademarks of General Electric Company.

Multiphor, Immobiline and IPGphor are trademarks of GE Healthcare companies.

All third party trademarks are the property of their respective owners.

© 2003–2007 General Electric Company—All rights reserved.
First published April 2003

All goods and services are sold subject to the terms and conditions of sale of the company within GE Healthcare which supplies them. A copy of these terms and conditions is available on request. Contact your local GE Healthcare representative for the most current information.

GE Healthcare UK Ltd
Amersham Place, Little Chalfont, Buckinghamshire, HP7 9NA, UK

GE Healthcare Bio-Sciences Corp
800 Centennial Avenue, P.O. Box 1327, Piscataway, NJ 08855-1327, USA

GE Healthcare Europe GmbH
Munzinger Strasse 5, D-79111 Freiburg, Germany

GE Healthcare Bio-Sciences KK
Sanken Bldg. 3-25-1, Hyakunincho, Shinjuku-ku, Tokyo 169-0073, Japan

imagination at work

Elanders i Uppsala 2008

80-6375-64 AB 12/2007